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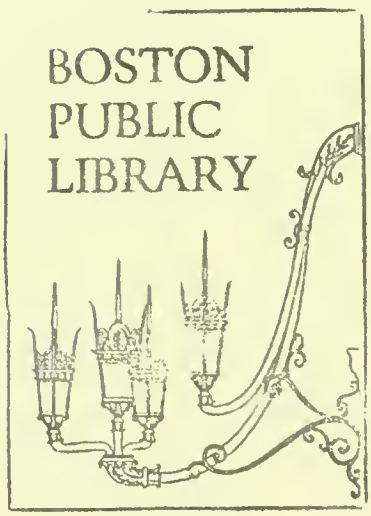
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MEMORANDUM

January 9, 1975

TO: Park Plaza Civic Advisory Committee

FROM: Stewart Forbes

The attached is submitted in hopes that it will be helpful in understanding and resolving some of the issues involved in the present stage of the Park Plaza Urban Renewal Project.

/smr

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INTRODUCTION

INTRODUCTION

One of the objectives of the B.R.A. during the past months has been to develop a framework for the analysis of various design alternatives for the Park Plaza Urban Renewal Project. This framework would permit an interaction between the design and environmental considerations which tend to argue for minimum densities and the financial and marketing considerations that tend to argue for greater density. This does not mean that all environmental issues are resolved in favor of reduced density or that all marketing issues are resolved by increased density. The generalization has been made only to emphasize the need to achieve a balance between many interacting variables. The process of developing this balance will provide the information necessary for the B.R.A. to select the development program which best serves the needs of the City.

This process has been formalized by the requirement of the Department of Community Affairs that an environmental impact analysis of the Urban Renewal Plan be submitted to the Secretary of the Environment and then to the Commissioner of D.C.A. prior to the commencement of any development activities. The environmental analysis being performed by The Saratoga Associates, in cooperation with the B.R.A. and the Civic Advisory Committee, will identify the impact of each stage of development activity on the natural, physical, social, and economic areas of the environment.

There are two major sections of Saratoga's work, the Environmental Base Data and the Development Program Interpretation. The data base provides a means of measuring the impacts and the development program provides the means of identifying the cause of each impact.

In some cases, the impacts will be positive in one area of the environment such as the economic, and negative in another area such as the natural. There will be no one development program which emerges as the optimal resolution of such conflicts. There will, however, be the information available to determine the implication of any proposed development program, and hence the B.R.A. will be able to make an informed and rational judgement.

It is important that those involved in decisions relating to the future of Park Plaza understand the limits as well as the potential of the environmental impact analysis. It is an extremely complex process both because of the technical nature of much of the information, and because almost every element varies with different assumptions. By its very nature, such a process can create an almost continual demand for additional information to provide further documentation. Yet the time consumed in gathering such information can change the

timing of a particular activity and thereby invalidate the information collected.

The B.R.A. began the current stage of the environmtneal analysis by reviewing the design objectives that had been established prior to the selection of a developer. Basically, the design staff was asked whether, in view of the information obtained in the Environmental Impact Report prepared for the Park Plaza Urban Renewal Plan, any modification should be made to the original design objectives. As the selection of Boston Urban Associates had been based in part on the relationship of their development program to these original objectives, the review by the staff exposed the developer to what could be considered a change in the rules midway through the game. However, such action is considered appropriate because of the time that has elapsed during the process of approval, because environmental regulations were applied to the project midway through the process, and because it provides a more realistic framework for the evaluation of alternatives.

Essentially, the City and the State by their approval of the Park Plaza Urban Renewal Plan, established that "something" should be built. The development proposed by Boston Urban, on which the approvals were based, defined that "something" in a general way. The task of the B.R.A. design staff and, in fact, the overall objective of the environmental impact analysis, is to define the "something" in more specific terms. Once these terms have been established, it will be clear exactly what the public will permit to be built, and hence the additional design work, necessary before the commencement of actual construction activities, can be completed.

While developing these terms, or what is better described as more specific design guidelines, the B.R.A. also focused on the issue of what maximum density the particular area can and should support. In the event the development program permitted by the Urban Renewal Plan exceeded these limits, feasible alternatives needed to be developed that might permit a reduction in the density. The analysis of such alternatives does not conclude with a recommendation, but with a framework for developing such a design.

Essentially, in these examples, the project area is treated as a series of separate parcels of land which can either be assembled in their entirety or separately depending on the public benefits of the proposed alternative and its financial and market feasibility. The costs of acquisition, relocation and demolition have been evaluated for each parcel and various aggregations of parcels are being considered in terms of uses which could absorb these costs. Recognizing that such analysis is somewhat independent from considerations of risk, the Design staff's purpose is not so much to draw conclusions but to raise questions which will be answered as additional information becomes available during the course of the environmental analysis.

These questions illustrate what might be considered the "what ifs" of the project. For example, what if only a portion of the total Urban Renewal Plan is implemented? What if the market for retail space is depressed and no major tenant is available? What if the office building on the corner of Arlington and Boylston were not constructed? What if the Statler Hilton were to proceed with an expansion of their facility? What if Stuart Street were not widened and Eliot Street re-aligned? Basically, the design staff will attempt to determine how the project might proceed on a parcel-by-parcel basis in such a manner that each development parcel could stand alone, yet not destroy the potential benefit of an integrated mixed-use development comprised of all parcels identified in the Urban Renewal Plan.

These determinations will be a major input to the Development Program Interpretation section of the work performed by The Saratoga Associates. The other major and obviously related input is the basis for determinations regarding financial and market feasibility.

The following report has been divided into four basic sections. Sections I and II dealing with urban design objectives was prepared by the Design Department of the B.R.A., Sections III and IV dealing with financial and market feasibility was prepared by the Development and Research Departments of the B.R.A.

URBAN DESIGN OBJECTIVES

SECTION I

URBAN DESIGN OBJECTIVES

I. Introduction

The B.R.A.'s urban design staff has completed a review of the design objectives of the Park Plaza project, parcels 1, 2 and 3. As part of a fresh look, while preparing the material needed for the building mass study and environmental impact analysis, the design objectives of the plan itself have been re-evaluated, and particular existing design solutions de-emphasized. Two basic issues were first explored:

1) Should any of the urban design objectives of the Park Plaza plan be modified or expanded, as more appropriate guidelines for the building mass study?

2) How could a range of realistic development alternatives be devised for evaluation in the course of the environmental impact analysis?

That exploration and its conclusion were then to provide a framework of alternatives, in the place of the existing design, to be studied in the building mass study and the environmental impact analysis. The methodology behind the alternatives is presented in Section II.

In the following design analysis and preliminary recommendations, clarifying and understanding issues are as important as resolving them. The following discussions are intended to give a new perspective on the existing urban renewal design objectives. Changes to the emphasis of some design objectives, usually to a more modest scale of action, are recommended. No changes to the basic plan are intended.

It is appropriate that this effort be presented to the Civic Advisory Committee and, more particularly, to that Committee's newly formed sub-committee on the 'Built Environment' for their review and comment. A meeting between that sub-committee and the design staff to review this work would be appropriate.

The following work has been extensively discussed with the Design Advisory Committee for Park Plaza*, first at a review session with the B.R.A. design staff on August 19, and then at a follow-up session on December 14 of 1974. The D.A.C. has indicated its support and encouragement for these modifications. However, it may be more appropriate for them to speak for themselves.

After the D.A.C. review, the developer's architect, Lewis Davis of Davis & Brody, reviewed these recommendations with the staff, and was generally supportive. In particular, Davis is in agreement with regard to the important issues of pedestrian and vehicular circulation and open space. However, all concerned with this design work now understand that the realization of the other objectives concerning bulk, height, number and location of towers will be more the functional result of the final decision of density than of any architectural ingenuity. The density issue is the heart of the second part of the study, and indeed of the environmental work program.

Although substantial progess has been made on design work, the parcel including the Statler Hilton hotel and the adjacent Boylston and Arlington Street corner site remains unresolved.

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*Stewart Dawson, Chairman; and members Araldo Cossutta, John C. Harkness

2. Defining The Parcels

Although in the formulation of the urban renewal plan it was stated that the project area must be treated as one integrated building complex, it has always been understood that development by necessity would occur incrementally. Both financing practice and market limitations call for a sequence of phased development actions over several years. This study assumed that each of these phases or parcels should be economically self-sustaining. Consequently, parcels must be defined in such a way that they are both small enough to insure a successful development which is an independent economic unit and still substantial enough to allow significant improvements to achieve an attractive and marketable environment. The individual parcels must also fit into a properly conceived physical linkage with adjacent parcels.

The staff recommendation based on these assumptions concludes that the phasing of development should be carried out in three major parcels, labelled on the drawings by their current major use:

1) Park Square

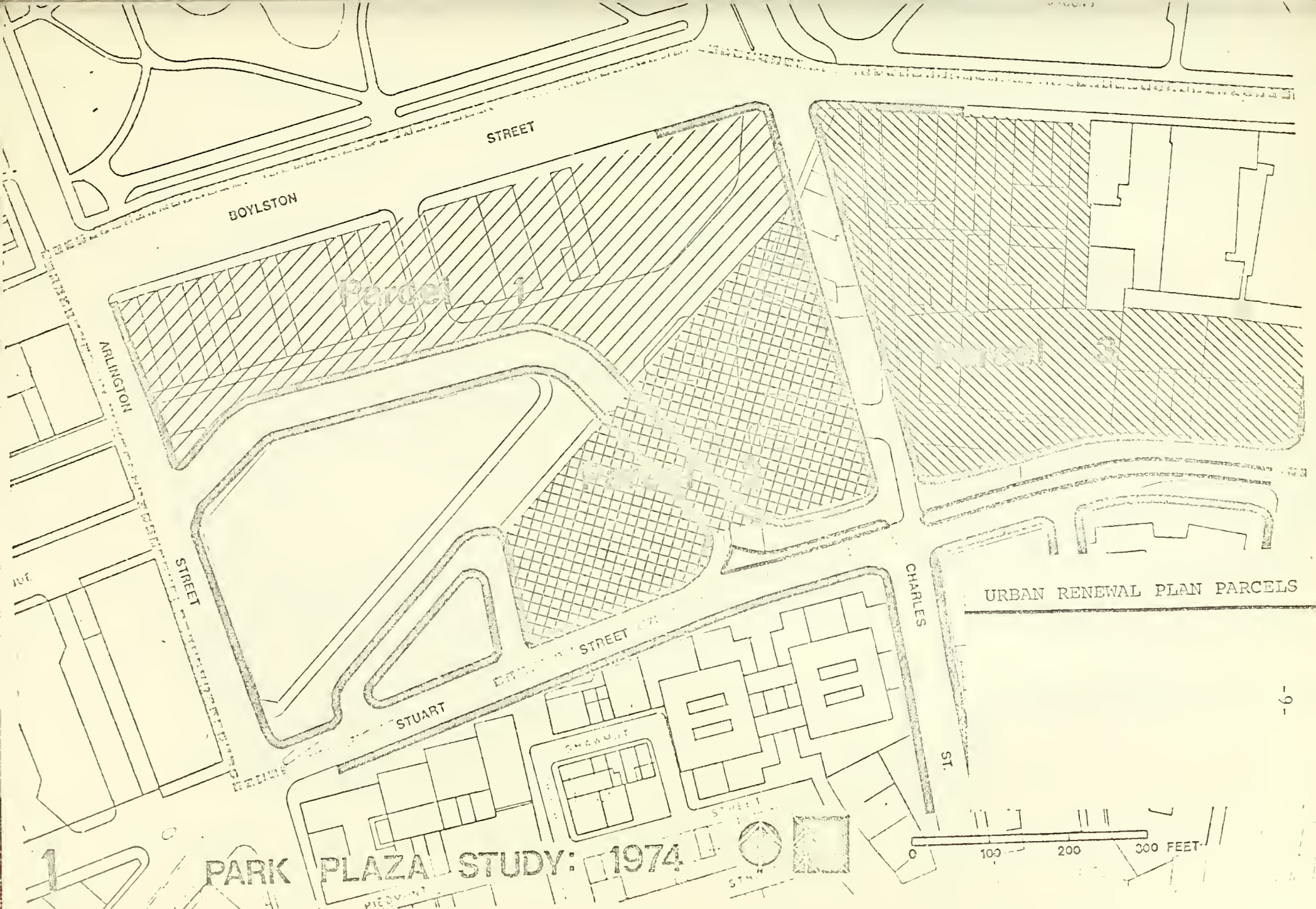
2) Eliot Street Garage

3) Statler Hilton

This proposed parcelization is an attempt at finding a median between the two desires - small, independent, and separately financed increments/large, comprehensively developed complexes - so that each parcel can stand on its own environmentally, yet contain no more elements than the developer would be capable of financing and marketing at any one time. Such development in three parcels would not eliminate the potential for integration but would not make integration dependent on the total Park Plaza redevelopment.

An important determinant in the geography of these three parcels is the division of the project into slices running on a north-south axis, from Boylston Street to Stuart Street. An important strategy to absorb the higher land cost along Boylston Street with a greater bulk of development towards Stuart Street depends on this division. In other words, on any one parcel the economic pressure for high rise buildings, which is primarily the pressure of Boylston Street land cost, could be taken up by high rise construction more desirably located near Stuart Street.

This parcelization requires any Statler Hilton redevelopment to be planned in conjunction with any redevelopment on the Boylston Street frontage between Arlington Street and Hadassah Way.



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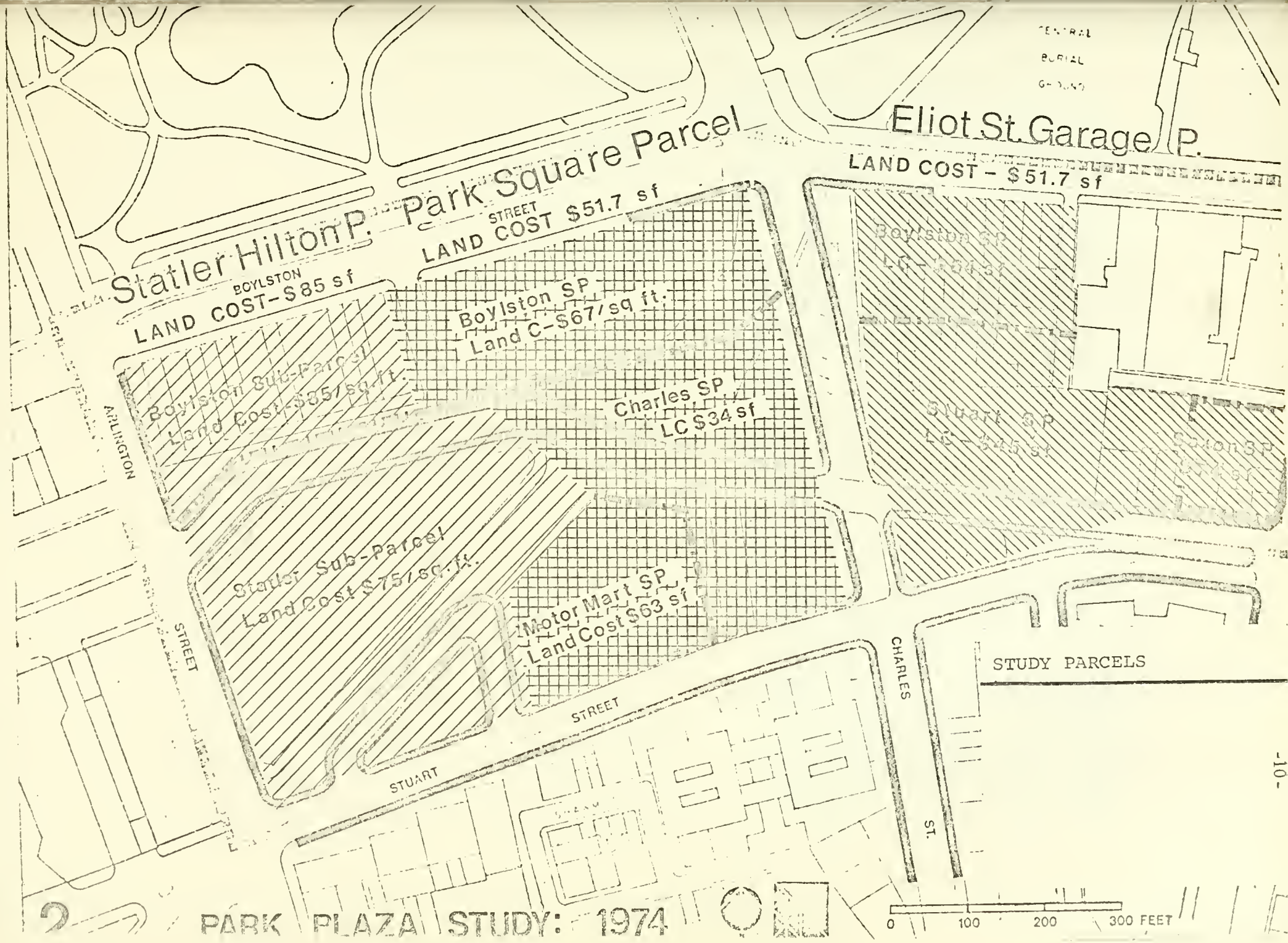

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3. Bulk

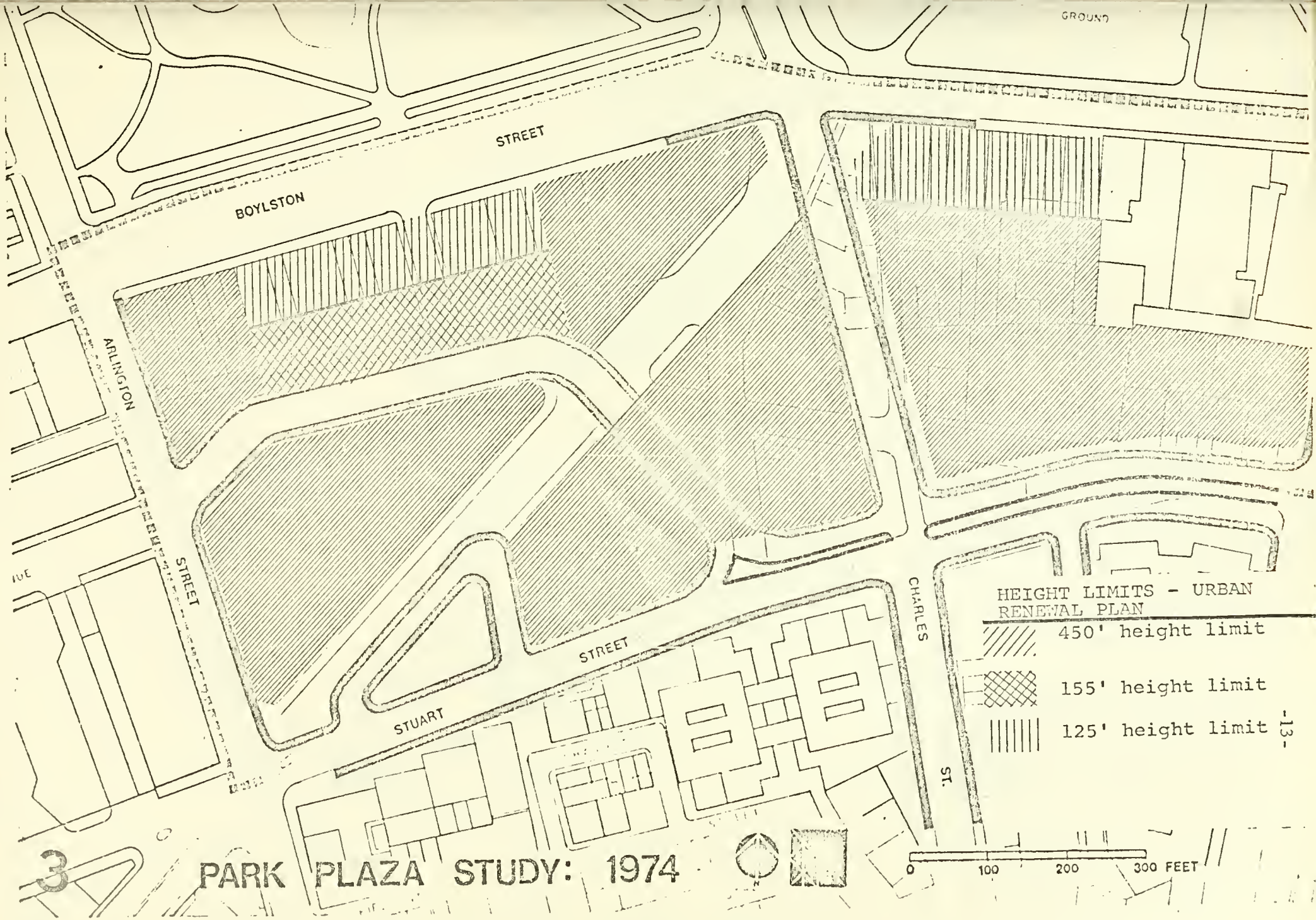
In the preceding discussion, it was suggested that the high land costs of the project area adjacent to Boylston Street could be absorbed by more intensive development towards Stuart Street, and then any tall buildings might be kept south of a line defined by New Providence Street. Such a setback of towers would conform to the 'High Spine' policy and relieve pressure on the Boston Common and Garden (shadows, wind impact, visual dominance, etc.). Further, if this approach can be shown to be economically feasible, urban design advantages would be achieved by limiting the number of towers to three, one to each of the newly defined parcels - Statler Hilton, Park Square and Eliot Street Garage. Such a limitation would minimize the wall effect of a large number of towers as perceived from the Boston Common and Garden, and would also be in closer conformity to the spacing between the existing 'High Spine' towers. The future description of alternatives will address the economic feasibility of reducing the number of towers.

4. Setbacks

The Urban Renewal Plan requires setbacks only along Boylston Street - a setback at 125 feet in height and a further setback between Arlington and New Charles Street at 155 feet in height. These current controls also allow exceptions for 450 foot towers at the Arlington/Boylston and New Charles/Boylston corners. The height limitation along Stuart Street is 450 feet.

Boylston Street acts as the major avenue linking commercial Back Bay to the downtown districts, along the southerly edge of the Back Bay historic residential district. When the Boston Society of Architects proposed their high-spine concept in 1961, they spelled out that the high-rise development should be kept back one block south of Boylston Street, following the alignment of Stuart Street so as not to overshadow and/or overwhelm the preservation district and the Common and Garden. This constraint has been held to throughout the development of all the high-rise buildings of the Prudential Center and the old and new Hancock Towers.

The cornice height of the Little/Colonial/Walker building block at the Boylston/Tremont corner is 125 feet. It would be logical to respect this cornice height in all new development immediately adjacent to these buildings. Setbacks could be varied elsewhere, e.g., on Boylston Street between Arlington Street and New Charles Street. The primary purpose of the Boylston Street setback, as was stated, is to reduce the impact of visual dominance and overshadowing on the Boston Common and Garden. These impacts are a function of both horizontal and vertical distances from the southern edge of the Common/Garden. Thus a setback at 80 feet in height and a further setback at 190 feet in height could have the same effect as the Urban Renewal Plan setbacks at 125 feet and 155 feet. Such a flexibility in setback controls permits a larger range of design solutions, without damaging the intent of the setback controls. For example, a building with setbacks could include office development to 80 feet in height with setback apartment development to 190 feet. This mixture of uses supports desirable apartment development better than a mixture with office development to 125 foot height and an insufficient amount of apartment development to 155 foot height, (i.e., only three floors of apartments). The Environmental Impact Statement will provide data (i.e., impacts on Common/Garden) necessary for establishing a formula for setback ratios.



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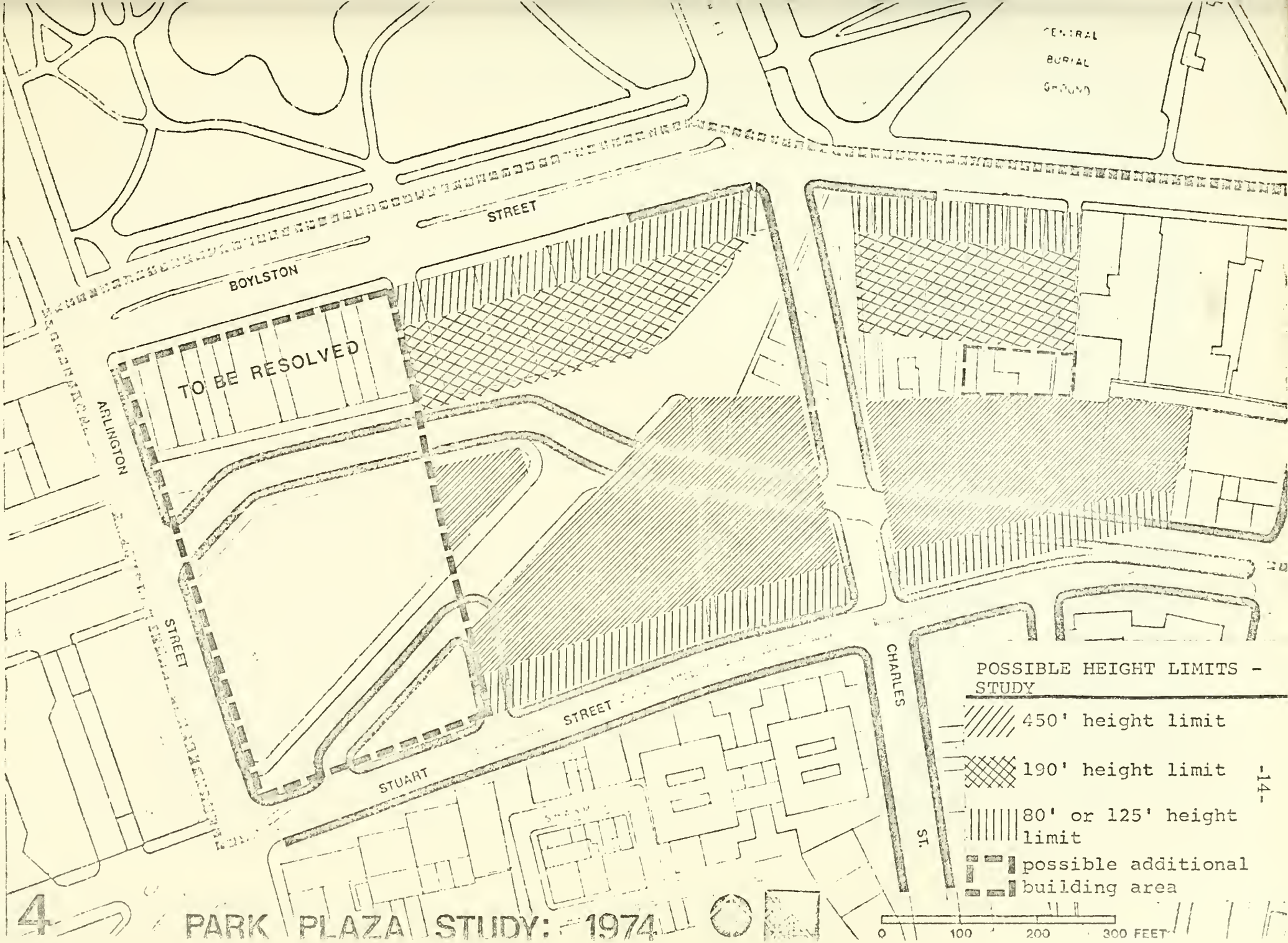


4 PARK PLAZA STUDY: 1974

Setback controls should also be established for Stuart Street, given the objective to revitalize this street and without prejudice against the pedestrian environment. At this preliminary stage, the same setback controls suggested for Boylston Street (80 feet and 190 feet) have been investigated and tentative conclusions show that the setbacks are feasible and advantageous.

A limitation of 450 feet for tower construction is set by the urban renewal plan. In order to reduce the number of towers to three and/or to achieve the consistency of low-rise along the entire Boylston Street frontage, a tradeoff allowing this limitation to be lifted for one of the Stuart Street towers could be considered.

5. Pedestrian Movement and Environment

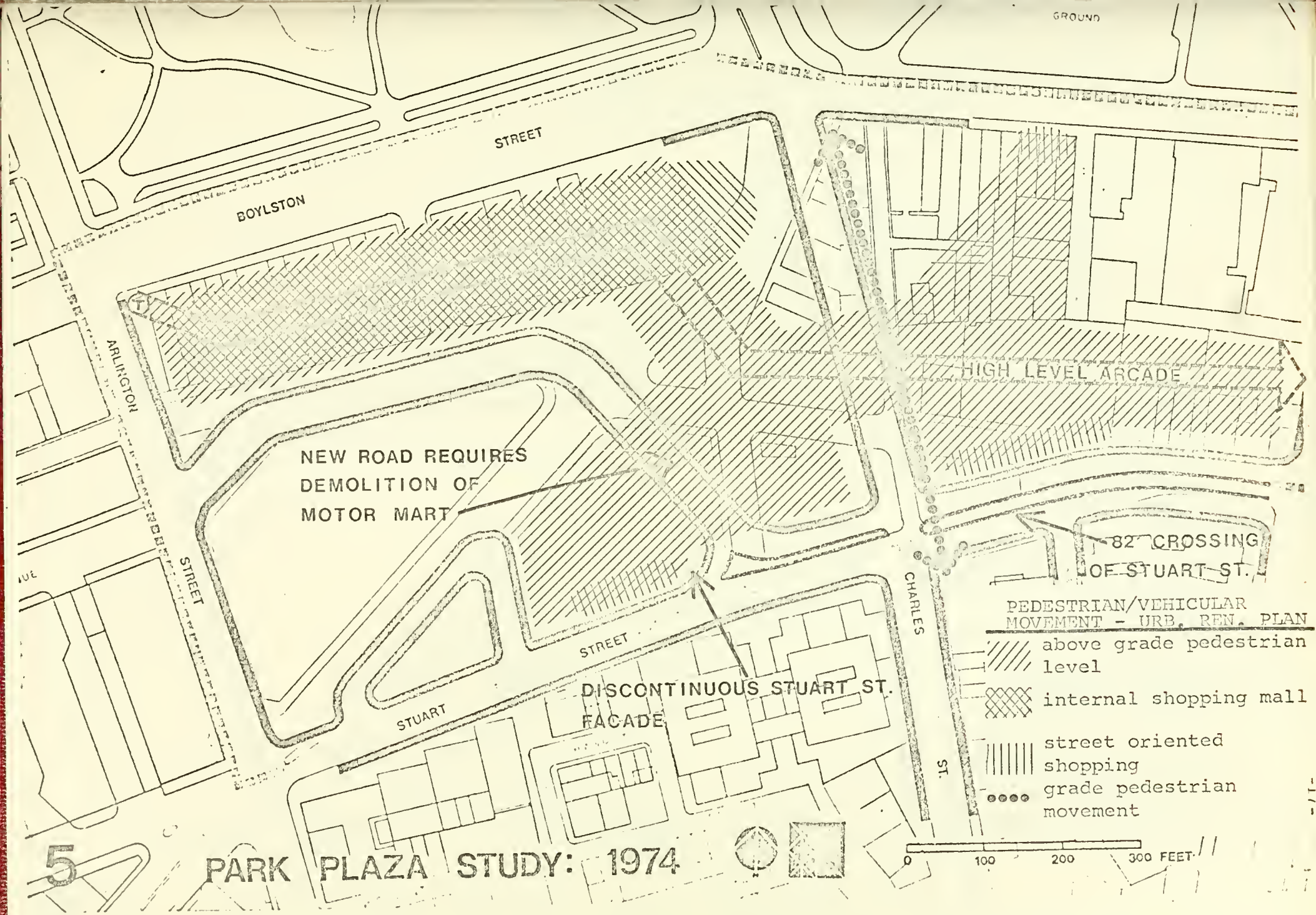
The Urban Renewal Plan stresses the need for a 'weather-protected, mid-block, through connection' as an 'architecturally dramatic, multi-level route.' As singular emphasis has been given to this particular amenity, other important and desirable pedestrian movements have been neglected.

The proposed mid-block route would connect the Arlington Street (west) end of the project with the Tremont Street (east) end. As regards pedestrian transportation, provision of this route is to a certain point redundant, as movement is adequately accommodated by the parallel Boylston Street and Stuart Street sidewalks, and the route connects stations on the same subway (Green) line. Great need, however, exists for new north/south connections from Stuart Street to Boylston Street which would link the revitalized South Cove and Bay Village areas to the Boston Common/Garden and the subway stops. These connections would constitute beneficial short-cuts as opposed to the east/west route. They would be best accommodated at grade level, obviating the need for the pedestrian to climb up and then down to travel a mere 500 feet.

Specific north/south connections that should be allowed for in the project area are:

- Connection between Bay Village and the Boston Garden. The South Cove residential district, although close to the Boston Garden, is separated from this fundamental amenity by the Park Plaza project area. Pedestrian connections can and will be made along the proposed New Charles Street, but a pedestrian route aligned with Church Street, the main north/south connector in the center of Bay Village, would be of greater value.

- Connection between the legitimate theaters. Likewise, pedestrian connections can be made between existing legitimate theaters and associated restaurants along a major street - Tremont Street - but a more pleasant and self-contained route could be made using Warrenton Street. Furthermore, this route links the Boston Common Parking garage, the South Cove pedestrian plaza planned north of the Bradford Hotel, and the newly constructed plaza south of the Music Hall. Development of this route could act as a catalyst for attracting similar theater uses along the route in the project area.



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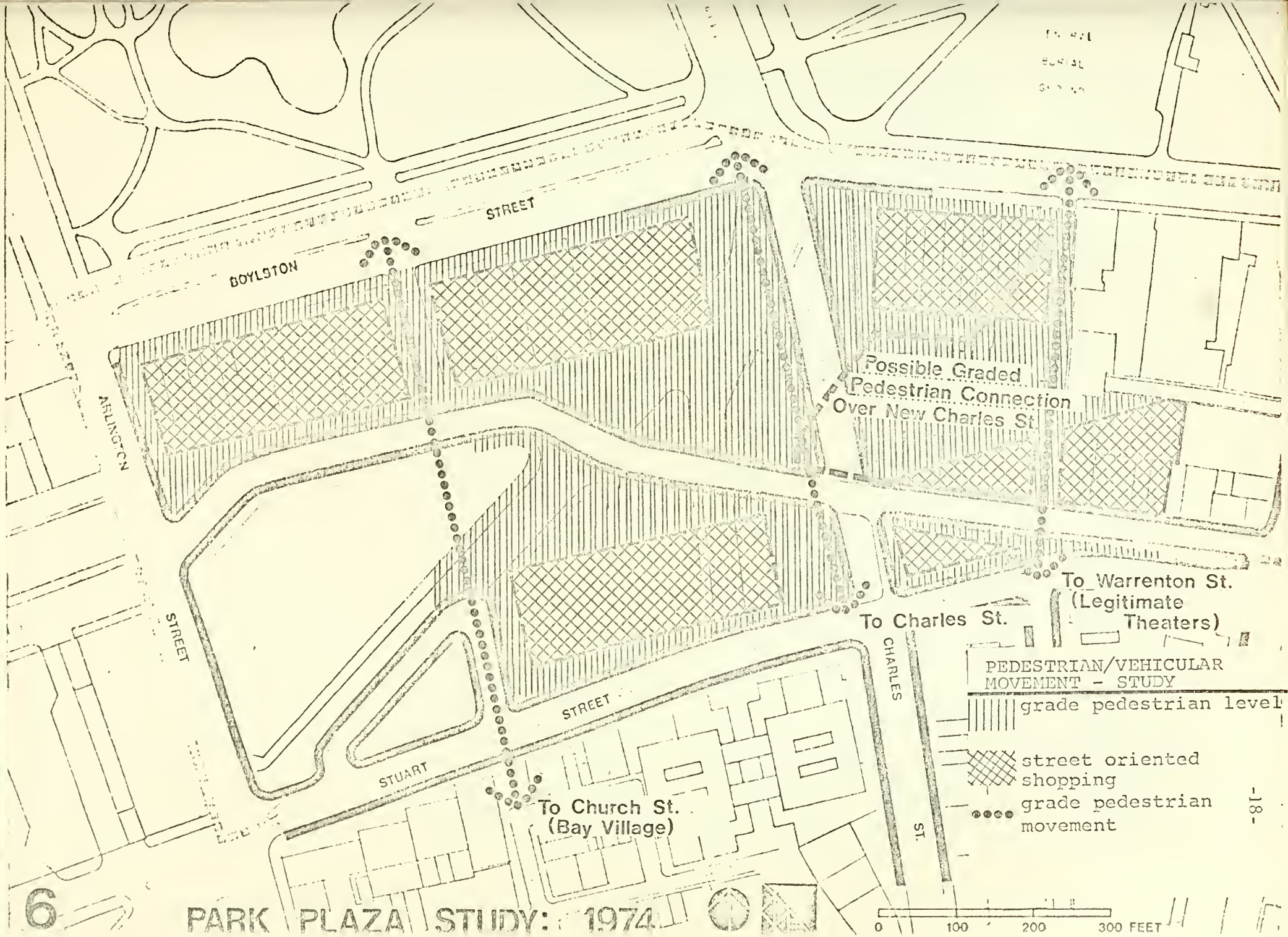

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If grade-level, north/south pedestrian movement is the greater priority in the design of the project, then any high-level pedestrian system can respond to the specific demands generated by the project itself, e.g., connections from major origins (parking, subway stops) to the major buildings, or service to sustain a multi-level retail component.

The functional accommodation of the pedestrian passing through and into the project area is only one aspect of the larger question - what sort of pedestrian-level public environment is most appropriate to a project of this magnitude and in this central location? An 'architecturally dramatic,multi-level route' would establish a public environment separate and different from the existing fabric of the city, just as Prudential Center is set apart from the surrounding streets. An alternative approach, continuing the existing grade-level circulation into and through the project is recommended. This could be accomplished by setting the individual building elements at street level. The courtyards and spaces thus formed should be kept active and functional by shops, services, and restaurants opening onto the spaces. Once this continuity has been established, further multi-level shopping areas could be added without prejudice to the basic grade level retail/pedestrian areas.

The success of the overall pedestrian environment also depends on a satisfactory interface between the project boundaries and the environs. This interface is most critical at the Stuart Street boundary. At present Stuart Street is environmentally and functionally confusing. The urban renewal effort should achieve a more coherent and vital Stuart Street. Considerably more retail frontage than that which exists today should be injected, a more homogenous facade with setbacks on both sides of the street should be built, traffic should not dominate the street. These objectives would be in conformance with those guidelines in effect with the South Cove urban renewal parcels on the southern side of Stuart Street.

6. Vehicular Movement

One of the well-known and most deficient aspects of the existing Park Square area is the very confusing road system. The through traffic patterns - north/south and east/west - are distorted by the diagonal movement around Park Square. The Urban Renewal Plan resolves north/south movement along the proposed New Charles Street, which must be aligned with the rebuilt New Charles Street to the south. The southern lanes of Stuart Street act as the eastbound distributor from the Back Bay to the Central Artery. Westbound traffic, however, must be split from the two-way Stuart/Kneeland Street to link with St. James Street, the westbound segment of the Stuart/St. James one-way pair in the Back Bay. There are two possible alignments for the westbound connector to St. James Street.

- The current Urban Renewal Plan alignment through the Motor Mart site; this alignment includes two 70° turns, the widening of Stuart Street to 100 feet from Tremont Street to beyond New Charles Street, and the demolition of the Motor Mart.

- A possible Eliot Street alignment; this alignment connects directly to Providence Street and maintains the width of Stuart Street at approximately three lanes, without encroaching further into the project area than the Urban Renewal Plan alignment. It also results in a possible 'traffic island' between New Charles Street and two one-way roads.

There are pros and cons to both alignments. Rentention of the Motor Mart structure would, of course, decide the issue in favor of the Eliot Street alignment. Preliminary investigation does show that there is a real possibility of the rentention and remodeling of the Motor Mart to a parking garage of modern standards. The savings of re-use would be considerable compared to the cost of a new garage built in approximately the same location and accommodating the same number of vehicles (which has been proposed in most development designs to date.)

*Rehabilitation costs ($6.58M) against demolition ($1.07M) and new garage construction costs ($10.53M); also a saving of approximately $1.0M by obviating the need for utility relocation.

Retention of the Motor Mart, however, does preclude the use of the site for a major tower, but at the same time relieves the economic need for such a tower. (This is the subject of Section II.)

Another advantage of the Eliot Street alignment is that it does take half of the traffic away from the Stuart Street corridor, to the benefit of the Stuart Street environment. The traffic is, of course, displaced to an alignment further inside the project area. Reconciling pedestrian traffic conflict within the project area (Eliot Street alignment) by design ingenuity is a greater possibility than reconciling the conflict at the Stuart Street edge (Urban Renewal Plan alignment). The Eliot Street alignment seems worthy of considerable further investigation.

7. Open Space

The section 'Pedestrian Movement and Environment' recommended grade-level movement and space. Such movement should be relatively free and the spaces relatively open to realize the potential fully (e.g., to minimize narrow passageways and tunnels). Any open space, however, that merely duplicates the Boston Common and Garden would be redundant. To provide basic open space without a dubious 'extension' of the Common/Garden, grade-level open space at the center of the project would be most suitable. The needed open space would be located to the maximum benefit of an intensive comprehensive development and would establish a sequence of spaces for pedestrian passing through the project area.

The establishment of pedestrian circulation at street-level should not preclude a further desirable objective - a generous traffic free crossing over the vehicular traffic of New Charles Street. Preliminary investigation shows that the present grade differential (approximately 9 feet) could be exploited to carry a plaza east of New Charles Street over the street with modest ramping.

The 'Columbus Avenue Visual Easement', already included in the controls to the Urban Renewal Plan, provides both a visual link between the South End and downtown Boston and requires a break in any development proposal. The open space which is a concomitant of the visual easement should be integrated into the overall open space scheme.

8. Use Mix

The Urban Renewal Plan calls for a 'lively mixture of mutually reinforcing uses with emphasis on residential and daytime, plus evening activity.' This objective is important and the development proposals to date have included a good mixture of uses - hotel, apartments, offices and retail, plus associated parking. There should be further exploration, however, of the proportion and marketability of individual uses.

Preliminary marketing analysis shows that only the retail use of the developer's program is questionable in terms of market absorption. Much depends on the availability of a major retail tenant (department store) to anchor the retail component.

Two physical urban design implications follow from the possible reduction of the retail program:

- The most probable manner of reduction will be omission of a (the) department store; department stores act as major anchor to any retail mall and are usually prominent semi-independent design elements.

- Multi-level pedestrian routes become considerably less viable.

Preferably any reduced retail component would be distributed uniformly throughout the project area, including along Stuart Street. The possible problems of concentrating the retail component into an internal mall, which could separate the project from the city fabric, would thus be avoided. The size of the retail component is the most critical variable in determining the gross parking requirement of the development program. A major retail center can only be marketed if there is adequate parking to serve customers. The relationship between street overloading, parking and square frontage of retail will be more carefully evaluated by the Environmental Impact Statement.

The Park Plaza project area is uniquely suited to apartment development. If any change in the mixture of uses is proposed, it should be in favor of apartments. In the last few years there has been considerable demand for in-town living, especially in locations bordering the Boston Common and Garden and in the historic districts of Back Bay, South End and Bay Village. The project area, of course, fronts the Common/Garden and adjoins two of the historic districts. Park Plaza can thus reinforce these districts by providing a needed link in the downtown housing pattern that the B.R.A. is encouraging.

The generally acknowledged problems in the financing of housing will be further explored in the financial analysis investigations. Interest subsidies, location of housing on the cheaper land, inclusion of offices to effectively subsidize associated housing are all possible avenues that will be explored.

9. Land Use

The existing development proposal is determined by a traditional land use approach. Alternative land use strategies should be considered to allow greater flexibility and to enhance the overall development.

The existing development proposals concentrate development along the Boylston Street frontage between Arlington and New Charles Street. The proposed office tower at the corner of Arlington and Boylston Streets can be seen as a direct extension of the Back Bay financial district. The Boylston shopping mall would be an extension of the Back Bay/Boylston Street retail. Apartment tower(s) approximately in the location of the Eliot Street garage would act as an extension of the potential Tremont Street apartment district and the major parking garages would lead to Stuart Street which, in turn, directly feeds the Central Artery.

A more flexible land use approach that perceived the major land uses as anchors strategically located within the project area, overcoming existing weaknesses, might make possible some urban design objectives. Benefits could include:

- distributing retail uses more uniformly through the project area, especially on Stuart Street. This could relieve Stuart Street from its singular function as a vehicular street.

- reducing the need to locate an office tower hard on the Arlington/Boylston corner.

- revitalization of Stuart Street by locating strong development components on Stuart Street as well as others on Boylston Street.

10. Statler-Hilton Parcel

A preceding discussion recommended that, as part of an appropriate strategy, Park Plaza be redeveloped in north-south slices. This strategy would permit the greater bulk of new construction to be located along Stuart Street, while absorbing the higher land costs along Boylston Street. This strategy appears sound for the other two parcels, but breaks down in this parcel. The site bounded by Arlington, Boylston, Eliot Streets and Hadassah Way, is the most expensive sub-parcel within the Park Plaza Urban Renewal Project area. The Park Plaza redevelopers have planned to use this site for a 36-story, 730,000 gross square foot office tower. This proposed tower conflicts with the urban design objective of retaining a low rise profile along Boylston Street. But the present financial and market analysis indicate this tower is critical to the obtaining of financing necessary to complete the entire project.

The Statler-Hilton hotel and office building sub-parcel, directly to the south of this block, while within the renewal area, is not scheduled for acquisition. Moreover, the Hilton has indicated its intention to refurbish and redevelop. Their present program calls for rehabilitating the present hotel portion, reducing the total number of rooms, while increasing the room size, and possibly demolishing the existing office portion, and building there a tower containing a garage, convention facilities and approximately 700 hotel rooms. This proposal raises a second design concern, the inclusion of two possible towers in one parcel (the office tower and the possibility of a Hilton Hotel tower).

There is a wide range of options and potential compromises available, but all of them call for a comprehensive joint solution. The Authority is presently bringing the parties together in order to explore the potential solutions. The Design Advisory Committee and the Civic Advisory Committee will be kept abreast of this effort.

DESIGN ALTERNATIVES

Design Alternatives

SECTION II

DENSITY ALTERNATIVES

1. Introduction

One fact that has become apparent is that conflict between design/environmental goals and the financial objectives tends to increase as development density increases. Development density can be seen as determined by the amount of construction needed to absorb land costs. The cost for the acquisition, necessary relocation and clearance of parcels 1, 2 and 3 is currently estimated at $26-million*. As will be demonstrated in the financial section, the ability to absorb this land cost requires a total of 5.5 to 6.0-million square feet of new construction.

It is the staff's conclusion that it is unlikely that the amount of new construction required to support financial feasibility could be meaningfully reduced unless the land area proposed for development is also reduced. Then, if it is desirable to reduce the density, how can a logical method be derived for reducing the amount of site within the project that is to be acquired, cleared and redeveloped?

* This is the current estimate and was gathered from three sources within the B.R.A. The cost of acquiring each parcel which is presently privately owned was estimated by the Real Estate Department. These estimates include an amount sufficient to cover the cost of taking parcels by eminent domain and paying court set prices. The demolition cost estimates were produced by the Engineering Department on a building-by-building basis, based on the volume of the material and the construction type (e.g., masonry, reinforced concrete, etc.) of the existing structure. The relocation cost estimates were provided by the Business Relocation Department on a block-by-block basis (or in some cases, a partial block basis).

2. Methodology

First, it is sensible to assume that one area must certainly be redeveloped, if a renewal effort is to be carried out. This is the area that surrounds Charles Street. It could be defined as all of the Park Square parcel and the Stuart Street subparcel (of the Eliot Street garage parcel). It includes most of the empty lots, and redundant roads within the project area, the bus station and the substandard Eliot Street garage. Within these boundaries complete redevelopment could accomplish all the necessary public improvements, i.e., street improvements - New Charles Street and the new westbound connector - revitalization of the most deficient portion of Stuart Street and the implementation of new north/south pedestrian paths. There is also a high percentage of city owned land, which lowers the land cost to be absorbed. If one assumes this area to be the core of the needed redevelopment area, the adjacent subareas can be examined and evaluated individually as to what the impact of rehabilitation vs. clearance and new construction would mean in terms of design and environment, financing and marketing.

As coherent subparcels, they are noted as:

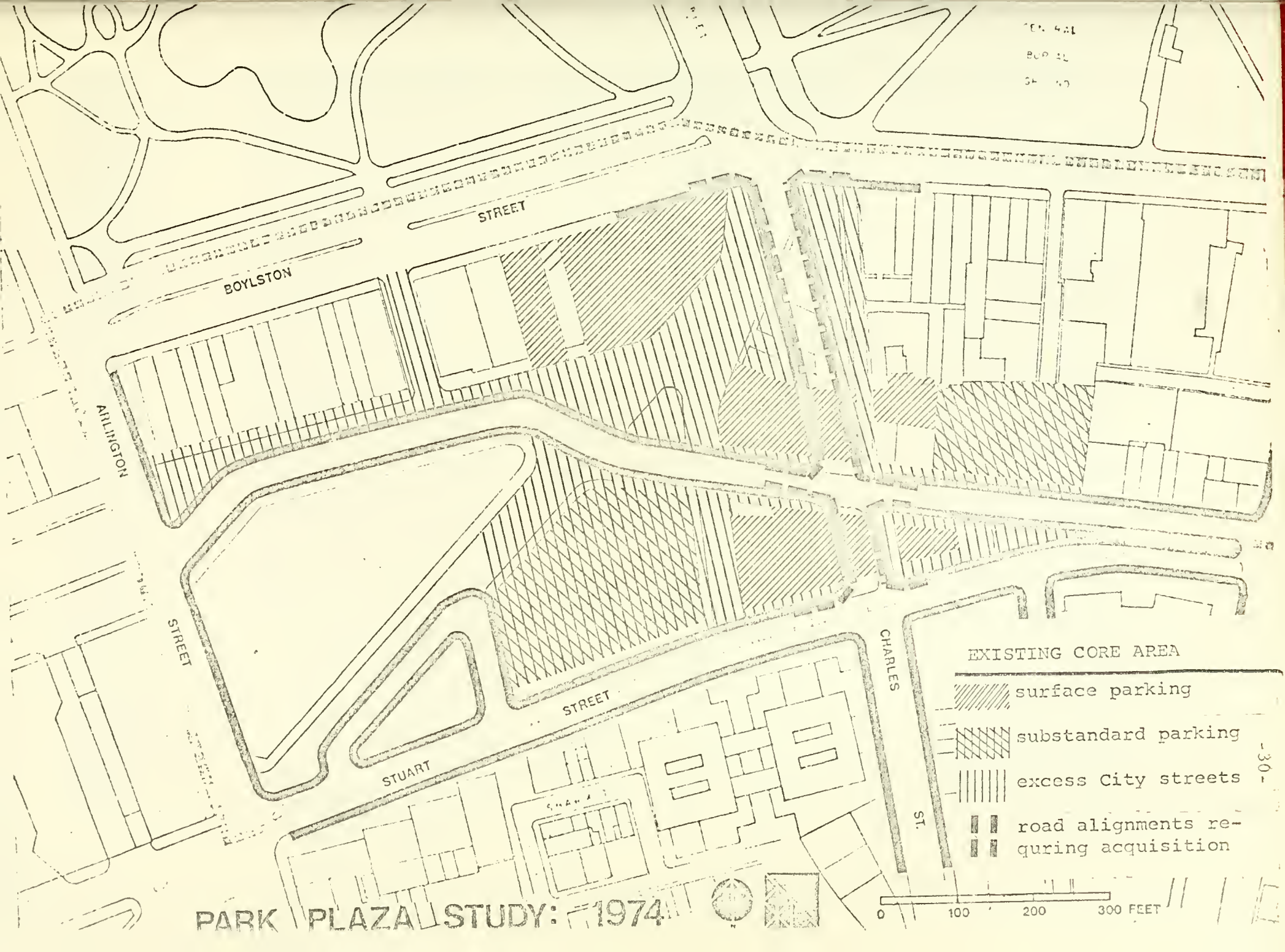
1) The Motor Mart garage, a substantial concrete frame structure (cleared land cost $4.07 million; existing structure and land cost $3.00 million).

2) The Saxon Theater corner, including the Saxon Theater itself with its elaborate facade and five miscellaneous small buildings; this subparcel has also a land price of $74 per square foot which is considerably above average (land cost, $1.5 million).

3) The Boylston Street frontage between Carver Street and Boylston Place, including the 'Piano Row' buildings (land cost, $3.19 million).

4) The Boylston Street frontage between Arlington Street and Hadassah Way, including the Women's Educational and Industrial Union Building (land cost, $5.12 million).

The overall site area and thus the gross development square footage can be manipulated by incremental addition or subtraction of the above subparcels. An example of this manipulation could be:


STREET
BOYLSTON
ARLINGTON
STREET
STREET
STUART
CHARLES
ST.
EXISTING CORE AREA
surface parking
substandard parking
excess City streets
road alignments requring acquisition
0
100
200
300 FEET
PARK PLAZA STUDY: 1974

If it were decided not to acquire the Saxon Theater subparcel and to refurbish rather than replace the Motor Mart garage, total estimated land cost would be reduced by $2.57 million. The savings effected by refurbishing the Motor Mart as opposed to building a new garage of equal capacity would be approximately $3.95. The total savings (land plus refurbished Motor Mart) is then $6.52 million. Using the absorption ratio of $26 million/ 5.5 million square feet, the total new construction could be theoretically reduced from 5.5 million to 4.12 million square feet.*

The simple use of this ratio, however, does not account for all of the variables which affect an accurate estimate of the amount of development necessary to absorb land costs, e.g., change in use mix, the minimum space requirements for each type of use, the maximum possible concentration in any one use, and the kinds and amounts of amenities that may be required to support certain uses. A specific and realistically conceived set of development alternatives must be tested to determine a viable ratio between land costs and the amount of space to be developed. This ratio may be different for different density levels.

In determining specific sets of development proposals, subjective marketing judgement must be acknowledged, e.g., the extent to which it is necessary for any component, such as an office building, to have frontage on Boylston Street.

Models, incorporating the above development variables, and realistic marketing assumptions, will be prepared and evaluated by both the B.R.A. and The Saratoga Associates so that the questions of absorbing land costs and ultimately setting the maximum of gross square footage and density of the project may be assessed. The mixture of individual uses, and the concomitant construction costs, rentals and financing for each use, at each density level, must be tested for the whole project as well as for specific parcels and subparcels. The models may demonstrate the principles in question by illustration (B.R.A.) or by complex interrelation of all the variables in a development matrix, (The Saratoga Associates).

*In this example effective construction savings (refurbishing of Motor Mart) are equated with land savings; although such a procedure would not be used in any detailed cost analysis, the end result would be the same, i.e., fixed capital costs are reduced.

Whatever the conclusions drawn from the testing of these models, a greater understanding of the development process will have been achieved. In order to arrive at a physical design, the project must be examined as a series of discrete elements, integrated by a common infrastructure which allows the project to be successfully developed in stages.

SECTION III

FINANCIAL AND MARKET FEASIBILITY OF DESIGN ALTERNATIVES

FINANCIAL AND MARKET FEASIBILITY OF DESIGN ALTERNATIVES

1. Method and Limitation of the Analysis

There are many factors to be considered in any determination of financial and market feasibility. The two terms are obviously related and are distinguished only to emphasize the quantitative nature of one and the the qualitative nature of the other. For purposes of this analysis, financial feasibility refers to a certain set of quantified givens, specifically the costs of a development budget, the revenues projected from various uses and the financing supported by such revenue. The limitation of such analysis is that it does not deal with the risks relating to each of these areas. For example, it can be shown that it is reasonable to assume that if a project can be built at a certain cost and generates certain revenues within a certain time period, that it should obtain a certain amount of debt and equity financing. However, such an assumption does not include an evaluation of the probability of increased development costs, slow or inadequate market response and changes in the economy which affect the terms of debt and equity financing.

An analysis of market feasibility relates more to a personal judgement about an existing or potential market. There are certain elements of the analysis that can be quantified such as the estimated demand for a particular use in a given area, and the existing revenues generated by these uses. An estimate can be made of future demand, the anticipated response to this demand and thus an estimate can be made of the unabsorbed potential demand, and the percentage of this that must be 'captured' by the proposed use.

There is a limitation to such analysis in that it does not deal with the probability of changes in the market, and/or changes in the response to projected demand. If one project is delayed or eliminated, does its market potential become absorbed by another project in a different location? How much does a location influence a market? How much can the character of a development influence a market? Does the quality of a location and the uniqueness of a character create the opportunity for an unanticipated market response?

The answers to these questions are more subjective than objective. What one individual considers folly, another considers a great opportunity. Seldom is a development constructed to meet an existing market but rather it is built to either satisfy an anticipated market or to generate a new market response. Very few people anticipated the response of the post World War II market to industrial locations outside the City, yet once industrial parks were built along Route 128, it became obvious. Today, some question the feasibility of un-subsidized central city housing,

yet it has been demonstrated that a combination of location, scale, quality of design, and amenities can substantially influence the market's willingness to respond.

The analysis of financial and market feasibility is further complicated by the role of the public sector. In the extreme, public action can create or destroy 'feasibility.' In those instances where substantial public benefits result, such as Park Plaza, public action to support feasibility is and should be justified. In many cases, the public agency cannot establish with certainty a project's market potential or financial feasibility, but it supports the project because of the public benefits that occur if that potential is achieved. Although the risk to the public under these circumstances needs to be examined and obviously protection provided when the public is unreasonably exposed, the risk that a project cannot be financed can be minimized by public action.

In the case of Park Plaza, the public act of approval increases the project's feasibility because it provides a means of insuring that the site can be assembled. Additional public action, such as street improvements, construction of parking facilities, financing of land assembly costs above a certain amount, and the use of revenue bonds for residential development, would further increase the feasibility of the project. Conversely, public action reducing the permitted density could destroy feasibility by making it impossible to absorb the costs and risks relating to land assembly. One of the purposes of the financial and marketing analysis is to inform the B.R.A. at what point this might occur.

The ultimate test of feasibility is whether or not the project can obtain the financing necessary to complete construction. The amount and terms of such financing differ according to the investor's evaluation of risk and return. As the financial risks increase, so does the demand for a greater return. To the extent that a project offers potential returns, the evaluation can be favorably influenced by offering the investor a portion of the ownership or 'equity' in the project. However, in Park Plaza, risks must be assumed within the context of a 6% limited return on the equity equivalent to approximately 10% of the total development costs, which reduces the opportunity to justify risk on a financial basis.

In an evaluation of financial and market feasibility, the B.R.A. attempts to answer two basic questions: what funds are necessary to complete the proposed construction; and will the revenue from the project support the necessary financing? It is impossible, however, to answer these questions with certainty at the time a public agency must act on a development project. Actual costs cannot be finalized until design drawings have been completed, and this cannot be accomplished until an approval establishing what can be built has been granted. Without detailed costs, firm financing commitments cannot be obtained and, hence, a public agency insisting on such commitments before granting approval can eliminate an opportunity for development.

This situation is not unique to Park Plaza as it exists to some degree in every project submitted to the B.R.A. What is unique about Park Plaza is that it is multi-use project that will be developed in various stages over a relatively uncertain time period. The relationship of these stages to each other and to the total development are critical to an evaluation of financial or market feasibility. The development program, which describes the scale and mix of uses, must be flexible enough in its implementation, to allow an adequate response to changing market conditions.

The location of Park Plaza supports a varity of uses. It is an ideal location for office, hotel, retail, entertainment and residential development. Combined, these uses complement and support each other offering the potential of a total development which is far greater than the sum of its parts. The hotel provides an active use of an area over a 12-16 hour period. Combined with parking and a well designed public amenity such as a plaza, the area will attract people who support restaurant and entertainment activities. This begins to establish a character for the development that reinforces the uniqueness of the location, which in turn strengthens the market for residential and office development. Residents and office workers increase the demand for retail, restaurant and entertainment activities which further enhance the character of the development and thereby increase the marketability of its proposed uses.

It is impossible to determine the exact sequencing of these uses or to quantify the effect of combining them. One can only recognize that each use depends to a degree on the neighboring use for environmental support and that there is a definite market and financial synergy created by their combination. The planning and design objectives for the project as well as the financial and marketing objectives would be adversely affected by any staging of the development which reduced this potential. Although the analysis of this effect is more subjective than objective, it is an important consideration in any determination of the aggregation of land necessary to support development activity.

A more easily quantified ingredient in such a determination is the land assembly cost that can be absorbed by each use or combination of uses. As Park Plaza is dependent on the private financing of all acquisition, relocation and demolition, it is critical that construction proposed for any parcel or combination of parcels offers sufficient potential revenue to finance all development costs including land assembly.

Analysis of the original development program for Park Plaza of between 5.6 and 5.9 million square feet indicated that some premium would have to be paid by the market in order to cover the costs and

risks of land assembly. It is anticipated that the unique location of Park Plaza and the potential of developing it on a scale significant enough to create its own character and environment, should create enough incremental economic value upon completion of the entire development to justify the premium.

Any proposed reduction in the scale of the development would tend to increase this premium unless it was related to a reduction in total land assembly costs. Since the premium in land costs must be supported economically by higher rents, it becomes a critical question as to whether or not rents can increase sufficiently to justify not only the existing premium suggested in the original development program, but also any increase in the premium necessitated by a reduction in the allowable density.

The framework for evaluating the effect of design alternatives on development costs and revenue projections and, ultimately, on financing, has been created by identifying a range defined by a minimum and maximum. These ranges, when related to time, mix of uses and a specific land area, permit a reasonable assessment of the financial feasibility of any alternative.

2. Financial Analysis

A recent review of transactions in the area supports the original estimate that total land assembly costs would amount to roughly $26 million. To this could be added the cost of carrying the land during the period after acquisition but before construction, contributions to the City for streets and improvements to the Common and Garden, and, finally, the overhead costs relating to the approval process; all of which could conceivably add another $8 million to the basic costs of land assembly.

The original development program for Park Plaza proposed to absorb these costs by construction of

- an 800-room luxury hotel
- 1,100,000 square feet of rentable office space
- 400,000 square feet of rentable retail, entertainment and recreational space
- 1,500 residential units of between 1,200 and 1,400 square feet
- 3,100 parking spaces.

The allocation of the basic land assembly cost of $26 million includes:

• Hotel -	800 rms. @ approx. $6,000/rm. =	$ 4,800,000
• Office -	1,100,000 s.f. @ avg. of $8./s.f. =	$ 8,800,000
• Retail -	400,000 s.f. @ avg. of $6./s.f. =	$ 2,400,000
• Residential -	1,500 units averaging $6,000/unit =	$ 9,000,000
• Parking -	3,100 spcs. averaging $300/space =	$ 1,000,000
		$26,000,000

The above figure, which does not include related carrying costs, exceeds the current average allocation of land cost for this type of use. The B.R.A. estimates current land cost per unit of development supported

by the existing market as follows:

- Hotel - $3,000 to $6,000 per room
- Office - $3.00 to $8.00 per square foot
- Retail - $2.00 to $6.00 per square foot
- Residential - $2,000 to $5,000 per unit

As has been mentioned previously, Park Plaza anticipates absorbing the premium necessitated by these costs through a combination of use, location, design and scale. The magnitude of this premium can be evaluated by comparing existing market rents to the rents required to finance various ranges of development costs.

The minimum and maximum costs and revenue for each use is described in Exhibits A, B, C. Exhibit D illustrates the relationship of these figures to financing by defining the assumbtions necessary to support the financial feasiblity of each proposed use. This points out that such feasibility depends on the achievement of rent levels at the upper end of the projected revenue range, and at the lower end of projected development cost.

This is particularly true of residential development which, at projected costs, will be the most difficult to finance unless it obtains some additional public assistance. However, the relatively short term of the rental period on residential units allows a faster reaction to a favorable market than other uses, such as retail and office where tenants are apt to sign longer term leases. Thus, a residential development which was initially marginal from a financial standpoint, might offer sufficient revenue potential in the future to attract the necessary financing.

The assumptions set forth in Exhibit D are intended only to illustrate a method of determining the potential financing generated by various combinations of costs and revenue. Alternative densities comprised of these uses can be evaluated in this manner and a determination of the validity of financial assumptions can be made when a schedule of construction and revenue generation has been established.

For purposes of analysis, the following outline of construction activity and revenue generation is submitted. This should be considered as one of many alternatives, but it can be used to evaluate the effect of changes in these time periods.

Construction	Hotel	Retail	Apartments	Office
Phase I 1-3 yrs.	800 rooms	200,000s.f.	500 units	
Phase II 2-5 yrs.		100,000s.f.	500 units	1,100,000s.f.
Phase III 5-7 yrs.		100,000s.f.	500 units	
Total:	800 rooms	400,000 s.f.	1,500 units	1,100,000 s.f.

Revenue Generated

Use	Lease up Period	Years after completion of construction required to achieve average rents
Hotel	1·1/2 to 2·1/2 yrs.	2 yrs.
Retail	1·1/2 to 3 yrs.	3 yrs.
Apartments	1 to 3 yrs.	2 yrs.
Office	1 to 3 yrs.	2 yrs.

EXHIBIT "A"

OFFICE DEVELOPMENT *

Cost	Low	Med	High
Construction cost per gross s.f.	$38	$42	$46
Estimated building efficiency 87%	$44	$48	$53
Architectural & Engineering; Legal, Administration & Taxes; Financing →	$16	$17	$18
Development cost per rentable s.f. w/o land	$60	$65	$71
Allocation of estimated land assembly cost	$ 8	$ 8	$ 8
Total development cost per net rentable s.f.	$68	$73	$79
Revenue			
Average gross rent per s.f.	$11	$12	$13
Vacancy allowance of 5%	(.50)	(.60)	(.65)
Adjusted gross rent	$10.50	$11.40	$12.35
Operating expenses	(2.25)	(2.40)	(2.60)
Real estate taxes 23%	(2.40)	(2.60)	(3.00)
Net available before debt service	$ 5.85	$ 6.40	$ 6.75

* Based on net rentable square footage.

EXHIBIT "B"

RETAIL AND ENTERTAINMENT DEVELOPMENT

Cost	Low	Med	High
Construction per gross square foot	$33	$37	$40
Efficiency of retail space 85%			
Cost per rentable square foot	$39	$42.50	$47
Architectural and Engineering, Legal, Administrative and Taxes, Financing →	$11	$12.50	$13
Development cost per s.f. w/o land	$50	$55	$60
Allocation of estimated land assembly cost	$ 6	$ 6	$ 6
	$56	$61	$66
Revenue			
Average gross revenue*	$10	$12	$15
Vacancy allowance of 5%	(.60)	(.75)	(.90)
Adjusted gross revenue	$ 9.40	$11.25	$14.10
Operating expenses	$ 2.	$ 2.	$ 2.
Real estate taxes 23%	$ 2.30	$ 2.75	$ 3.45
Net available before debt service	$ 5.10	$ 6.50	$ 8.65

* Based on net rentable square footage.

EXHIBIT "C"

RESIDENTIAL DEVELOPMENT

Cost	Low	Med	High
Construction per unit of 1,400 s.f.	$45,000	$50,000	$53,000
Architectural and Engineering Legal, Administrative & Taxes ⟶ Financing	$10,000	$10,000	$12,000
Development cost w/o land	$55,000	$60,000	$65,000
Allocation of estimated land assembly cost	$ 6,000	$ 6,000	$ 6,000
Total cost per developable unit	$61,000	$66,000	$71,000
Revenue			
Average annual rental	$ 6,000	$ 7,200	$ 8,400
Vacancy allowance of 3%	(180)	(215)	(250)
Adjusted gross rent	$ 5,820	$ 6,985	$ 8,150
Operating expenses	(1,000)	(1,100)	(1,200)
Real estate taxes 20% of adjd. gross	(1,160)	(1,400)	(1,630)
Net available before debt service	$ 3,660	$ 4,485	$ 5,320

* Based on per rentable residential unit.

EXHIBIT "D"

FINANCIAL ASSUMPTIONS SUPPORTING FEASIBILITY *

	Office	Retail	Housing
Net revenue before debt service	$ 6.60	$ 6.50	$ 6,000
Capitalization rate for appraised value	9.5%	10%	10%
Appraised value	$70.	$65.	$60,000
Debt to equity ratio	80%	80%	80%
Loan Amount	$56.	$52.	$48,000
Interest rate on debt	9·1/4%	9·1/2%	9%
Term of debt	35yrs.	32 yrs.	35 yrs.
Mortgage Constant	9.64%	9.9%	9.4%
Total Development Cost	$69.	$65.	$65,000
Equity (cost - debt)	$13.	$14.	$17,000

* * * *

Net revenue	$6.60	$6.50	$6,000
Annual debt service	$5.40	$5.20	$4,500
Return on equity	$1.20	$1.30	$1,500
Return as a percentage	9.2%	9.3%	8.8%

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* This is broken down on a per unit of development basis, i.e., office and retail is based on per rentable square foot, and residential on per rentable unit.

For purposes of the analysis shown in Exhibit D, it has been assumed that the equity required for development is determined by subtracting the debt financing, in this case a first mortgage, from the total development budget. The yield or return on this equity is determined by dividing the net income remaining after debt service by the required equity. This figure does not reflect the actual yield because it fails to consider the effects of tax shelter, time and residual value, but it is a justifiable measure of the return for determining whether a project can attract the necessary financing. A project showing a yield of 8 - 10% can usually be leveraged to provide a sufficient overall return to justify private investment. In the case of Park Plaza, equity equivalent to roughly 10% of development cost is limited to a 6% return. Thus, in the examples in Exhibit D showing an overall 9% return, half of the equity would yield 6% and the remaining half approximately 12%.

SUMMARY

Over the next few weeks, alternative development programs describing various mixes of uses will be defined. Each alternative will be related to a specific land area and evaluated in terms of its relationship to the design objectives and to financial and market feasibility. Thus, each alternative can be analyzed as illustrated by Exhibit D and the costs supported by projected revenue, can then be compared to the ranges defined in Exhibits A, B, C. Finally, a judgement can be made concerning the relationship of these projected revenues to the existing and anticipated market conditions.

GENERAL MARKET ANALYSIS

SECTION IV

In order to provide a basis for judegments regarding marketability, the Research Department of the B.R.A. has prepared the following report.

Housing Market

The demand for new quality apartments in Downtown Boston is a function of three basic factors: household income, locational preference, and mobility or migration pattern of the population. The demand for new quality housing in a market area increases as a result of inmigration of new middle- and upper-income families into the area; increases in household income of the existing population, which enables the household to afford higher quality housing; and changes in the locational preference of the population within the metropolitan area or within the market area itself. A recent study of the City's housing market indicates that, with regard to all three of the basic demand elements, the Downtown housing market should experience a significant increase in demand for new, high-quality housing over the next decade.[1]

Between 1960 and 1970, there was an increase of 68% in the number of households in the City of Boston earning between $15,000 and $25,000+; and for the metropolitan area, as a whole, there was a 107% increase in the number of households in this income bracket; (all measured in constant dollars at 1970 prices). Household income projections for City and Boston Metropolitan Area for 1980 and 1985 indicate a continuation of these basic growth trends; with the number of households earning over $15,000 increasing by 84% and 78% for the City of Boston and the Metropolitan Area, respectively.[2]

With regards to population trends, recent police census data (1973) indicates that the Downtown population has experienced a net increase of over 3% since 1970.[3] To some extent, the growth in population in the Downtown is the result of increased number of new middle- and upper-income housing. Since 1960, almost 4,500 units of new housing has been added to the Downtown; 3,000 during the decade of the sixties and 1,500 units in the first three years of the seventies.[4]

Further analysis of the recent population growth in the City, however, suggests a new trend and pattern of population migration pattern for the 25-34 year age group of the population. In response to the growth in jobs and increase in Boston's service-oriented economy, and the

changing life styles of this younger population, which shows a basic preference for City living, there has been a significant net inmigration of this group into the City Core Area. The new incoming population tend to be high-skilled, professional and in the middle- and upper income brackets.[4]

Despite the significant increase in the number of new quality housing units in the Downtown area in the late sixties and early seventies, overall vacancy rates in the quality housing market has remained extremely low. A survey performed in the winter of 1973 for the BRA by Gladstone Assoc. found vacancy rates in recently built Downtown middle- and upper-income apartment buildings ranging from 0 to 3%. The overall vacancy rate of these apartments-with the exception of Harbor Towers-was 2.8%.[5] As important as the low vacancy rate, as an indicator of high demand in this housing market, is the consistency with which it has remained low over the past several years. The result of a similar survey conducted by Gladstone Associates in the summer of 1971 were essentially the same as those found one and a half years later. The low vacancy level for this market is well below the 4 to 6% normal turnover or "frictional" rate. This tight market condition has resulted, in some cases, in long waiting lists, and demonstrates a consistent strong demand for quality apartment development in the Downtown area of Boston.[5]

One of the basic factors which has attracted residents into the new Downtown high-rise apartments, along with the changing locational preference for City living, has been the proximity to work. In a recent survey of high-rise apartment dwellers in the Downtown, the overwhelming reason for choice of location was convenience to employment. Secondary in importance was proximity to shopping, restaurants, cultural activities, and "City life" in general.[6]

Therefore, it is reasonable to assume that growth in Downtown employment will be the key element in the increase in demand for new housing. We have projected that over the next ten years the City of Boston will gain nearly 80,000 new jobs, of which at least 50,000 of these, or 60% will be located in the Downtown area.[7]

Based on the employment projection, the current housing market demand, the recent trends of inmigration of 25-34

year olds into inner city areas, and the projected growth trends in household income, we have estimated that the Downtown housing market has the potential for absorbing between 12,000 and 23,000 new units of housing over the next ten years.[8]

The response to this potential future market for middle- and upper-income housing in the Downtown by residential developers has been relatively modest. The Boston Redevelopment Authority has been able to identify a total of 13,000 dwelling units, including Park Plaza, within Downtown developments which are either planned, proposed or in tentative stages of consideration. However, of the 13,000 identified, only 1,000 units are currently under construction; 34 units are in the planning stage (a building permit has been issued); 2,000 units are in the proposed stage* (the Building Department or public agency has received a formal proposal); leaving more than 9,000 units as "tentative" (discussed with some seriousness, but still at early stages of consideration). Thus, out of the 13,000 units only 1,034 are firmly committed.[9]

With a potential demand for 12,000 to 20,000 units of new middle- and upper-income housing in the Downtown, it seems reasonable to assume that the Park Plaza residential development could find a ready market for its high quality apartments in downtown Boston.

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* Proposed stage units include the Park Plaza development.

Sources: Housing Market

1

BRA, Housing Task Force, Housing in Boston: Background Analysis and Program Directions, June 1974.

2

BRA Research Dept., Characteristics of Population: Families and Households, and their Levels of Income, for the City of Boston and the Metropolitan Area, 1960 and 1970 Actual, and 1980 and 1985 Projected, August 1974.

3

BRA Research Dept., Boston's Population; Reversal of Two Decades of Population Decline; Rebirth of the City as a Place to Live; Emergence of New Age Structure and Neighborhood Patterns, July 1973.

4

Op. cit.,BRA, Housing Task Force, Housing in.....

Op. cit., BRA Research Dept., Boston's Population .....

5

Gladstone Assoc., Survey of Selected Quality Apartment Developments, Boston Core Area, Summer 1971, Winter 1973.

6

BRA Research Department, Boston's New High-Rise Apartments: A Study of the New Residents and their Preferences, January 1974.

7

BRA Research Department, Expanding City of Boston Economy, updated September 1974.

8

Op. cit. BRA, Housing Task Force, Housing in Boston.....

9

Ibid.

Retail Market

In analyzing the marketability of retail space for the Park Plaza development, the basic approach will be to utilize retail sales projections for the local retail markets (i.e., Downtown and City of Boston) and the regional market (i.e., Boston SMSA) and compare these sales projections with the current level of retail activity to determine the amount of new retail space that could be supported by the incremental sales volume (all retail sales figures expressed in constant dollars, at 1970 prices).

The current (1972) retail sales volumes for the Downtown market, the City and Boston Metropolitan Area markets are based on sales data from the Census of Retail Trade, 1972[1] and the Census of Major Retail Centers, 1967[2].

The 1980 and 1985 retail sales projections for the Downtown market are based on estimated expenditure patterns for six basic market segments: (1) office employees; (2) Downtown residents; (3) Downtown visitors (tourist and business); (4) City residents living outside the Downtown Area; (5) suburban residents; and (6) Massachusetts residents outside the Boston Area.[3]

For each market segment, growth in size and real income levels are projected for 1980 and 1985.[4] Utilizing the most recent national projections on personal expenditures profiles for 1980 and 1985, total retail expenditures for each of the market segments are estimated for 1980 and 1985.[5] The share of the total retail expenditures by the various market elements that would be captured by the Downtown market is estimated based on historical data, recent market studies on Downtown shopping patterns, and recent surveys on Downtown office workers and residents.[6]

Based on the above analysis, high and low sales projections are made for the Downtown, City and Metropolitan Area retail markets for 1980 and 1985.

For the Downtown market, the low sales projection indicates a real net increase in retail sales of $135 million from 1972 to 1985. The low projection is based on an increase in the size and expenditures of the "captive market" elements of the Downtown market, (i.e., office workers, Downtown residents, and Downtown visitors) and assumes a continued decline in sales (declining capture rate) to residents outside the Downtown area, (i.e., City, suburban and other Mass. residents).[7]

The high sales projection shows a real net increase in Downtown retail sales of $235 million for the thirteen-year period. The high projection reflects the same growth in the captive market segments, but assumes a modest increase in Downtown sales to City residents and suburbanites. However, even with this modest increase in Downtown sales per suburban and City residents, the overall capture rate of metropolitan area retail sales by the Downtown market shows a slight decline.

With the low projection, the Downtown's share of the metropolitan area retail market would decline from 8.5% in 1972, to 7.1% in 1985; while under the assumptions of the high sales projections the Downtown share of the metropolitan market would decline only slightly to 8.1% in 1985. In other words, if the Downtown retail market could approximately maintain its existing share of the metropolitan market, it would expand total retail sales by $235 million (measured in constant dollars, 1970 prices) over the thirteen-year period (1972-1985). This is primarily due to the projected gains in real disposable income for metropolitan area residents.[8]

Translating the projected growth in retail sales into supportable retail space, it is estimated that the Downtown market could absorb between 1.0 million square feet of new retail space, under the low sales projection, to 1.8 million square feet of space, with the high sales projection. The new retail space that could be supported by the projected increments in retail sales is based on average sales per square foot of $130.[9]

The total retail space stock in the Downtown for 1972 has been estimated at approximately 5.7 million square feet, based on the current average sales of $95 per square foot.[9]

An inventory of all new retail space currently underway and planned for the Downtown over the next ten years totals 934,000 square feet; not including the retail space in the Park Plaza development.[10]

Although there are other factors which must be taken into consideration in analyzing the market feasibility for a retail development, (i.e., location and accessibility, quality, mix, size, etc.) and will be taken into consideration in the full market feasibility study, the above analysis does indicate that within the overall context of the future Downtown retail market, there will be, potentially, an adequate level of demand to support the retail space proposed for the Park Plaza development. In fact, it could be said that the Park Plaza development is essential to the full realization of the Downtown retail market potential. The key to achieving the higher sales projection for the Downtown was the ability of the Downtown market to maintain its current share of the metropolitan area retail market. A large retail complex, (such as the Quincy Markets, that is currently underway, or the retail complex proposed for Park Plaza), that can offer "unique" quality and/or variety to the shopper, can act as a magnet in drawing additional suburban and City shoppers into the Downtown area.

Sources: Retail Market

1

U.S. Bureau of Census, Census of Retail Trade, Mass., 1972.

2

U.S. Bureau of Census, Census of Major Retail Centers, Mass., 1967.

3

BRA Research Department, Revival of Downtown Retail Trade in Boston; Recent Trends and Patterns and Future Prospects and Potential, December 1974.

4

BRA Research Department, Characteristics of Population: Families and Households, and their Levels of Income, for the City of Boston and the Boston Metropolitan Area, 1960 and 1970 Actual, and 1980 and 1985 Projected, August 1974.

BRA Research Department, The People of Boston and their Neighborhoods, June 1974.

BRA Research Department, Boston's Office Industry: Demand and Supply, the Past and Future Prospects, updated September 1974.

BRA Research Department, Expanding City of Boston Economy (update) September 1974.

5

National Planning Association, Regional Economic Projection Series, "Income, Savings and Consumption Patterns for Regions, States and Metropolitan Areas", Report No. 71-R-1, October 1971.

U.S. Dept. of Commerce, Bureau of Economic Analysis, Survey of Current Business, "Personal Income and Outlay", July 1974.

U.S. Dept. of Commerce, Bureau of Economic Analysis, Survey of Current Business, "Projections of Income, Employment and Population for Regions, States and Metropolitan Areas, 1950-1990", April 1972 and September 1974.

Sources: Retail Market

U.S. Dept. of Labor, Consumer Expenditures and Income, Monthly Reports.

6

Op. cit., BRA Research Dept., Revival of .....

Gladstone Associates, Retail Opportunities in Park Plaza Site, August 1971.

The Rouse Co., Department of Market Research, Market Analysis of Faneuil Hall Marketplace, Boston, Mass. December 1972.

BRA Research Dept., A Study of Downtown Boston's "Captive" Retail Market of Office Employees and New High Rise Apartment Dwellers: Where They Shop and Why, October 1974.

7

Op. cit., BRA Research Dept., Revival of.....

8

Ibid.

9

Urban Land Institute, The Dollars and Cents of Shopping Centers, 1972.

Op. cit., BRA Research Dept., Revival of .....

10

Op. cit., BRA Research Dept., Revival of .....

Office Market

The analysis of market feasibility for Park Plaza office development follows the similar demand-supply approach, but the office market tends to be much more volatile than either the housing or retail markets, since it is more closely attuned to the changing local and national economic currents; and therefore, it is more difficult to predict the long-range market trends. However, we have developed a substantial amount of information on Boston's office industry, and combined with our indepth analysis of the trends and prospects for the local economy, we can develop a reasonable market profile to evaluate the Park Plaza office development.[1]

The Boston office market has experienced substantial growth over the last decade. Since 1963, more than 14 million square feet of new office space has been constructed in the Downtown area, representing nearly 75 percent increase in the total Downtown office stock.[1] Despite this substantial increase in office space, the office vacancy rate for Downtown Boston continued to decline throughout the sixties and reached an all-time low of 2.0% in 1970. With the deteriorating economy in the 1970s, office vacancy increased to a high of 8.8% in late 1971, but has since continued to decline to its present level of 7.4% (as of October 1974)[2] in spite of the net addition of over 4.5 million square feet of new office space to the Downtown market from 1970 through 1974.[3] At present, the Boston office market has one of the lowest vacancy rates of any major U. S. city.[4]

The current private office space stock in Downtown Boston is estimated at 28.5 million square feet with over 40% of this being Class A space. There is currently nearly 7.5 million square feet of new office space now under construction, all of which is expected to be completed by the end of 1976 or early 1977; bringing the total office space stock in 1977 to approximately 36.0 million square feet. However, for the 1977-1985 period, we have, at this time, been able to identify a total potential of only 5 million square feet of new office space; including the Park Plaza development, which would bring the total office space stock in the Downtown to approximately 40.0 million square feet (allowing for some demolitions) by 1985.[5]

On the demand side, we have estimated that current "potential" demand for office space in the Downtown to be around 32.5 million square feet.

In estimating office space demand, we set the office market to equilibrium in 1929, (i.e., office demand equal to office space stock = 15 million square feet), and added the increments in demand to this base figure. The basic components in the growth of office demand are: (1) growth in Downtown office employment; (2) upgrading of office space (i.e., providing more office space per worker); and (3) the replacement of obsolescent office space. The growth in Downtown office employment was estimated from our detailed employment series for the City of Boston.[6] An industry-occupation matrix for key years was developed and an office worker allocation coefficient was applied to each of the matrix sectors to break out office workers by industry for the city.[7] The city-wide office employment was then allocated to the Downtown based on its share of total office space. Office employment was translated into office space needs by applying the average office space per worker ratio appropriate for the particular period.[8]

The demand for additional space generated by the upgrading of office space was based on national BOMA survey data. The BOMA data indicated a steady increase in the amount of office space allocated per office worker. The increment in office space per worker was applied to the new office workers and to a certain percentage of existing office employment base which was gradually being upgraded as firms moved into newer office facilities.[8]

The demand for new office space generated by the replacement of obsolete office facilities was based on average economic life expectancy for standard office space of forty years. The Downtown office stock was distributed according to age of building and the amount of space that was obsolescent was determined for each time period. The amount of obsolescent space that had been or was expected to be upgraded through rehabilitation was subtracted from the total obsolete space replacement requirement and the remaining space, adjusted for demolitions, was calculated as the replacement requirement.[9]

Obviously, the above analysis, in calculating demand for new office space, assumes a certain pattern of behavior in the office market (i.e., that all new office workers are accommodated at the appropriate office space per worker ratio, and that obsolescent office facilities are replaced); therefore, we consider our demand as a "potential demand" figure, i.e., that these assumptions are operative in the office market.

Utilizing the above methodology and our most recent projections for employment growth in the City of Boston, we have estimated that potential demand for new office space will increase by 2.5 million square feet over the next three years, bringing the total potential demand in Downtown office market to approximately 35.0 million square feet by the end of 1976. This compares to our total office space stock estimate for 1976 of 36.0 million square feet, which leaves a 1.0 million square feet surplus of office space at the end of this period. However, office space demand is expected to increase by over 7.0 million square feet between 1976 and 1985; bringing total potential demand to 42.0 million in 1985, which exceeds the expected supply of office space by 2.0 million square feet.

The 9.5 million square feet projected growth in demand for new office space over the 12-year period is based on an increase in demand of 8.5 million square feet as a result of new office employment growth and 1.5 million square feet generated by upgrading and replacement needs.

The projected growth in office employment, which is the key to continued growth in demand for new office space, is based on detailed analysis of employment trends and occupational shifts projected for the City of Boston and the Boston SMSA, and have been adjusted to reflect the most current local economic trends, as well as the most recent national, regional and local employment projections compiled by the various state and national agencies.[10] The City's employment projections indicate a net gain in office employment for the Downtown area of 40,500 over the next 12 years. Accommodating the new office workers in Downtown office space, given the current trends in office space per worker ratio, will require 8.5 million square feet of new space.

In summary, the brief office market analysis above indicates that the Boston office market is in relatively good shape, but

will experience a slight surplus of space in the 1976-1977 period. However, it is expected that this surplus will be eliminated toward the end of the decade and potential demand will again continue to outstrip supply through the 1980s. Since the Park Plaza office development would not be scheduled to come on the market until after 1978, it is reasonable to assume that the Downtown office market could readily absorb the 1.0 million+ square feet of new space proposed for the Park Plaza site.

Sources: Office Market

1

BRA Research Department, Boston's Office Industry: Office Space Demand and Supply, Past and Projected, updated September 1974.

BRA Research Department, Expanding City of Boston Economy, updated September 1974.

2

Greater Boston Real Estate Board, Building Owners and Managers Association Office Vacancy Survey, 1950, 1960, 1970.

Ryan, Elliot & Co., Inc., Real Estate Market Survey Boston Office Edition, April 1971, October 1974.

3

BRA Research Department, Report of Capital Investment, Underway, Planned and Proposed, updated December 1974.

The Codman Co., Inc., The Codman Survey; Summary of New Construction in Greater Boston, R. Duff Ramsey, ed. 1973.

4

National BOMA Assoc., Skyscraper Management, October 1974.

5

Op. cit., BRA Research Dept., Boston's Office.....

6

Op. cit., BRA Research Dept., Expanding City of.....

7

U.S. Dept. of Labor, Tomorrow's Manpower Needs, "National Industry-Occupation Matrix and Manpower Data, 1960, with Projection to 1985", June 1973.

8

National BOMA Association, Office Experience Exchange Reports, 1963, 1967, 1968, 1971, 1973.

Regina Armstrong, The Office Industry Patterns of Growth and Location, New York Regional Planning Assoc., MIT Press, 1972.

Sources: Office Market

9

Ryan, Elliot & Co., Survey of Office Buildings in Downtown Boston, unpublished, 1972.

10

Op.cit., BRA Research Department, Expanding City.....

Op.cit., U.S. Dept. of Labor, Tomorrow's Manpower.....

Commonwealth of Massachusetts, Division of Employment Security, Manpower Requirements for Mass. by Occupation and Industry: 1970-1980, April 1974.

Commonwealth of Massachusetts, Division of Employment Security, Manpower Requirements for the Boston Standard Metropolitan Statistical Area, by Occupation, by Industry; 1970-1980, August 1974.

U.S. Dept. of Commerce, Bureau of Economic Analysis, Regional, State and Metropolitan Area Projection of Income, Employment and Population, 1950-1990, April 1972 and April 1974.

U.S. Department of Labor, Monthly Labor Review, Jack Alterman, "The United States Economy in 1985", December 1973.

Federal Reserve Bank of Boston, New England Economy Indicators, July 1974, Frederic B. Glantz, "New England's Employment Growth: 1971-1980".

National Planning Association, Center for Economic Projections, Economic and Demographic Projections for State and Metropolitan Areas.

U.S. Dept. of Labor, Patterns of U.S. Economic Growth Projections for 1980 and 1985, 1973.

U.S. Dept. of Labor, The Changing Structure of New England Employment 1947-1973, November 1974.

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